

## **REMARKS**

The Examiner alleged that the Information Disclosure Statement fails to show a legible copy of each U.S. and foreign patent listed in the Information Disclosure Statement filed July 7, 2002. In response, Applicants have enclosed herewith a legible copy of each U.S. and foreign patent listed in the Information Disclosure Statement filed July 7, 2002.

The Examiner objected to claims 18-23, stating: "Claims 18-23 are objected to because of the following informalities: claim 18 recites "the method of claim 18". It is suggested to replace "18" by -17-. Appropriate correction is required". In response, Applicants have amended claim 18 to depend from claim 17.

The Examiner stated: "Claims 17 and 24-26 are allowed. Claims 18-23 will be allowed after correction." Applicants gratefully acknowledge the Examiner's indication of allowable subject matter.

The Examiner rejected claims 27-29, 31, and 34-35 under 35 U.S.C. §102(b) as allegedly being anticipated by Jones, Jr. et al. (U.S. 4,835,118).

The Examiner rejected claims 30, 32-33 and 36 under 35 U.S.C. §103(a) as allegedly being unpatentable over Jones, Jr. et al. (U.S. 4,835,118) in view of Mehta et al. (U.S. 5,795,627).

Applicants respectfully traverse the §102 and §103 rejections with the following arguments.

**35 U.S.C. §102(b)**

The Examiner rejected claims 27-29, 31, and 34-35 under 35 U.S.C. §102(b) as allegedly being anticipated by Jones, Jr. et al. (U.S. 4,835,118).

Applicants respectfully contend that Jones, Jr. does not anticipate claim 27, because Jones, Jr. does not teach each and every feature of claim 27. For example, Jones, Jr. does not teach the feature: “providing a semiconductor substrate having a semiconductor material therein, wherein the semiconductor substrate includes a programmable element region having the programmable element, and wherein the programmable element comprises the semiconductor material”. The language of the preceding feature of claim 27 requires that the semiconductor substrate and the programmable element comprise the same semiconductor material. Although Jones discloses that the programmable element 44 comprises polysilicon, Jones does not disclose that the semiconductor substrate 26 contains polysilicon or even silicon.

In “Response to Arguments”, the Examiner states: “In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the semiconductor substrate and the programmable element comprise the same semiconductor material) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.”

In response, Applicants respectfully contend that the phrase “the semiconductor material” in the feature “wherein the programmable element comprises **the semiconductor material**” (emphasis added) of claim 27 has antecedent basis in the phrase “a semiconductor material” in the feature “providing a semiconductor substrate having **a semiconductor material**

therein”(emphasis added) of claim 27. Therefore, by the legally valid rules of claim construction, claim 27 recites that the semiconductor material comprised by the programmable element is the same semiconductor material that is comprised by the semiconductor substrate. Applicants are relying on claim construction, and not on the specification, with respect to the preceding interpretation of claim 27.

Based on the preceding argument, Applicants respectfully maintain that Jones, Jr. does not anticipate claim 27, and that claim 27 is in condition for allowance. Since claims 28-29, 31 and 34-35 depend from claim 27, Applicants contend that claims 28-29, 31 and 34-35 are likewise in condition for allowance.

In addition with respect to claim 29, Jones does not disclose the feature: “wherein the doping step is performed after the step of forming a layer”. The Examiner has not presented any argument with respect to the preceding feature of claim 29.

In addition with respect to claim 31, Jones does not disclose the feature: “wherein the laser radiation has a wavelength such that the laser radiation is essentially unabsorbed by the cap portion of the layer”. The Examiner has not presented any argument with respect to the preceding feature of claim 31.

In addition with respect to claim 34, Jones does not disclose the feature: “wherein the method further comprises rapidly cooling the programmable element from the elevated temperature to an operating temperature”. The Examiner has not presented any argument with

respect to the preceding feature of claim 34.

In addition with respect to claim 35, Jones does not disclose the feature: “wherein the step of forming a layer includes forming a conductive contact within the layer, wherein the conductive contact is in direct mechanical contact with the cap portion and with the semiconductor substrate”. The Examiner has not presented any argument with respect to the preceding feature of claim 35.

**35 U.S.C. §103(a)**

The Examiner rejected claims 30, 32-33 and 36 under 35 U.S.C. §103(a) as allegedly being unpatentable over Jones, Jr. et al. (U.S. 4,835,118) in view of Mehta et al. (U.S. 5,795,627).

Since claims 30, 32-33 and 36 depend from claim 27, which Applicants have argued *supra* to be patentable under 35 U.S.C. §102(b), Applicants maintain that claims 30, 32-33 and 36 are not unpatentable under 35 U.S.C. §103(a).

In addition, Applicants respectively contend that the Examiner's argument for modifying Jones by the alleged teaching in Mehta is not persuasive. The Examiner argues that "Jones, Jr. et al. does not specifically show the wavelength in the range as claimed, the cap portion including silicon dioxide or silicon nitride and providing trench isolation regions. However, Mehta et al. teaches the wavelength in the range as claimed, the cap portion including silicon dioxide or silicon nitride and providing trench isolation regions (col. 3, lines 18-43, col. 5, lines 10-14, col. 7, lines 30-33). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Jones, Jr. et al. reference by including the wavelength, the cap portion including silicon dioxide or silicon nitride and providing the trench isolation regions as taught Mehta et al. in order to avoid damage (Mehta et al., col. 3, lines 18-21)."

In response to the preceding argument by the Examiner, Applicants maintain that Mehta does not teach avoiding damage, as alleged by the Examiner, but rather teaches removing existing damage. Mehta's method for removing the existing damage is totally unrelated to: the laser wavelength, the silicon dioxide or silicon nitride material of the cap portion, and the trench

isolation regions. Mehta teaches that damage is avoided by melting the surface 165 of the semiconductor substrate 170 to a sufficient depth, which is controlled by the energy fluence of the laser beam. In fact, the “cap portion” is not even present when the laser beam of Mehta removes the damage. See Mehta, FIGS. 5-6 and accompanying description on col. 6, line 39 - col. 7, line 3.


Thus, Applicants respectively contend that the Examiner has not established a *prima facie* case of obviousness in relation to claims 30, 32-33 and 36.

### CONCLUSION

Based on the preceding arguments, Applicants respectfully believe that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invites the Examiner to contact Applicants' representative at the telephone number listed below. The Director is hereby authorized to charge and/or credit Deposit Account No. 09-0457.

Date: 08/10/2004

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